

ISOLATED ANTI-MESOTHELIUM

113. (New) An antibody comprising a variable heavy (V_H) chain and a variable light (" V_L ") chain, which V_H and V_L chains have complementarity-determining regions ("CDRs") as set forth in Figure 1.

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114. (New) An antibody of claim 113, wherein said V_H and V_L chains comprise framework regions ("FRs") as set forth in Figure 1.

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115. (New) An antibody of claim 113, wherein said antibody is a single chain Fv ("scFv").

116. (New) An antibody of claim 115, wherein said scFv has V_H and V_L chains joined by a peptide linker.

117. (New) An antibody of claim 116, wherein said peptide linker has a sequence as shown in Figure 1.

SEQ ID # 6

118. (New) An scFv of claim 115, wherein said scFv has a sequence as shown in Figure 1.

SEQ ID # 5

119. (New) An antibody of claim 113, which is a disulfide stabilized Fv ("dsFv").

120. (New) A dsFv of claim 119, having V_H and V_L chains which comprise framework regions ("FRs") as shown in Figure 1

121. (New) An antibody of claim 113, wherein said V_H and V_L chains are encoded by SEQ ID NO:1.

NOT dsFV
NEED S-S
SOMEWHERE
IN FRAMEWORKS

122. (New) An antibody of claim 113 having a sequence as set forth in
SEQ ID:5.

123. (New) An antibody of claim 113, further wherein said antibody is
labeled with a detectable label.

124. (New) An scFv of claim 115, further wherein said scFv is labeled
with a detectable label.

03 125. (New) A dsFv of claim 119, which dsFv is labeled with a
detectable label.

126. (New) An antibody of claim 113, further wherein said antibody is
attached or fused to a therapeutic agent.

127. (New) An scFv of claim 115, further wherein said scFv is attached
or fused to a therapeutic agent.

128. (New) A dsFv of claim 119, further wherein said dsFv is attached
or fused to a therapeutic agent.

129. (New) An antibody of claim 126, wherein said therapeutic agent is
a toxin.

130. (New) An scFv of claim 127, wherein said therapeutic agent is a
toxin.

131. (New) A dsFv of claim 128, further wherein said therapeutic agent
is a toxin.

132. (New) An antibody of claim 129, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

133. (New) An scFv of claim 130, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

134. (New) A dsFv of claim 131, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

135. (New) An antibody comprising a variable heavy ("V_H") chain which V_H chain has complementarity-determining regions as set forth in Figure 1.

136. (New) An antibody of claim 135, wherein said V_H chain has a sequence as set forth in Figure 1.

137. (New) An antibody of claim 135, wherein said antibody is attached or fused to a therapeutic agent or detectable label.

138. (New) An antibody of claim 135, wherein said therapeutic agent is a toxin.

139. (New) An antibody of claim 138, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

140. (New) An antibody comprising a variable light ("V_L") chain which V_L chain has complementarity-determining regions as set forth in Figure 1.

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141. (New) An antibody of claim 140, wherein said V_L chain has a sequence as set forth in Figure 1.

142. (New) An antibody of claim 140, wherein said antibody is attached or fused to a therapeutic agent or detectable label.

143. (New) An antibody of claim 142, wherein said therapeutic agent is a toxin.

144. (New) An antibody of claim 143, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

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145. (New) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable heavy ("V_H") chain and a variable light ("V_L") chain, which V_H and V_L chains have complementarity-determining regions ("CDRs") as set forth in Figure 1.

mb 76
146. (New) A composition of claim 145, wherein said V_H and V_L chains comprise framework regions ("FRs") as shown in Figure 1.

147. (New) A composition of claim 145, wherein said antibody is a single chain Fv ("scFv").

scFv
148. (New) A composition of claim 147, wherein said scFv has V_H and V_L chains joined by a peptide linker.

mb 77
149. (New) A composition of claim 145, wherein said peptide linker has a sequence as shown in Figure 1.

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150. (New) A composition of claim 147, wherein said scFv has a sequence as shown in Figure 1.

151. (New) A composition of claim 145, wherein said antibody is a disulfide stabilized Fv ("dsFv").

152. (New) A composition of claim 145, wherein said therapeutic agent is a toxin.

153. (New) A composition of claim 152, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

154. (New) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable heavy ("V_H") chain having complementarity-determining regions ("CDRs") as set forth in Figure 1.

155. (New) A composition of claim 154, wherein said V_H chain comprises framework regions ("FRs") as set forth in Figure 1.

156. (New) A composition of claim 154, wherein said therapeutic agent is a toxin.

157. (New) A composition of claim 154, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

158. (New) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable

label attached or fused to an anti-mesothelin antibody comprising a variable light ("V_L") chain having complementarity-determining regions ("CDRs") as set forth in Figure 1.

159. (New) A composition of claim 158, wherein said V_L chain comprises framework regions ("FRs") as set forth in Figure 1.

160. (New) A composition of claim 158, wherein said therapeutic agent is a toxin.

161. (New) A composition of claim 158, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

162. (New) A kit for detecting mesothelin on the surface of cells, said kit comprising:

(i) anti-mesothelin antibody comprising a variable heavy (V_H) chain and a variable light ("V_L") chain, which V_H and V_L chains have complementarity-determining regions ("CDRs") as set forth in Figure 1.

(ii) instructions printed on a tangible medium, said instructions describing methods of using said antibody for detecting mesothelin on the surface of cells.

163. (New) A kit of claim 162, wherein said V_H and V_L chains of said antibody have a sequence as set forth in Figure 1.

164. (New) A kit of claim 162, wherein said antibody is a scFv.

165. (New) A kit of claim 164, wherein said scFv has a sequence as set forth in SEQ ID NO:5.